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Remarks

Reexamination and reconsideration of this application is requested. Claims 6, 12 and 18 have been amended and no new claims have been added. Claims 6-21 remain in the application.

Response to the 35 U.S.C. §102(e) Rejection

The Office Action rejects claims 6-21 under 35 U.S.C. §102 (e) as anticipated by Sugar et al. (US 6,526,264 B2).

Claims 6-11

Sugar et al. disclose in FIG. 2 a transceiver having a DAC 158 in the transmitter portion and an ADC 116 in the receiver portion. The transceiver further includes a cancellation circuit, which the Examiner has identified as transmit interference canceller 440.

Applicant's independent claim 6, has been amended to overcome the prior art of reference. For instance, claim 6 now recites a cancellation circuit having a first input directly connected to an input of the DAC and a second input coupled to an output of the ADC.

Sugar et al. teach an output of a summer 164 connected to an input of the transmit interference canceller 440. The output of summer 164 is further connected to an input a Power Amplifier Predistort 370. The output of the Power Amplifier Predistort 370 is an input to an adder 356, whose output is supplied to the input of DAC 158. Whereas Applicant's claim 6 recites a cancellation circuit having a first input directly connected to an input of the DAC, Sugar et al. teach a cancellation circuit electrically separated from the DAC both by summer 164 and Power Amplifier Predistort 370. Since Sugar et al. does not teach this feature, the relied upon reference cannot anticipate Applicant's claim 6. Claims 7-11 depend, either directly or indirectly, from base claim 6 and are believed allowable for at least the same reasons as claim 6.

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Claims 12-17

Applicant's Independent claim 12, has been amended to overcome the prior art of reference. For instance, claim 12 now recites a cancellation circuit having inputs directly connected to the DAC and the ADC.

As previously mentioned, Sugar et al. teach an input of the cancellation circuit that is separated from an input of the DAC by both a summer 164 and a Power Amplifier Predistort 370. Accordingly, Sugar et al. cannot anticipate Applicant's claim 12. Claims 13-17 depend, either directly or indirectly, from base claim 12 and are believed allowable for at least the same reasons as claim 12.

Claims 18-21

Applicant's independent claim 18, has been amended to recite processing the first digital value from an input of the DAC and the second digital value from an output of the ADC to generate an out-of-phase signal.

Again, Sugar et al. teach both the summer 164 and the Power Amplifier Predistort 370 separating the DAC from the cancellation circuit. Accordingly, Sugar et al. cannot anticipate Applicant's claim 18. Claims 19-21 depend, either directly or indirectly, from base claim 18 and are believed allowable for at least the same reasons as claim 18.

Response to the 35 U.S.C. §103(a) Rejection

The Office Action rejects claims 6-9, 12-16 and 18-20 under 35 U.S.C. §103 (a) as unpatentable over Hessel et al. (U.S. 6,359,897 B1) in view of Lansford et al. and Dankberg et al.

Claims 6-9, 12-16, and 18-20

The Examiner depends on Hessel et al. for disclosing a programmable radio which can operate with many different modulation schemes. As the

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Examiner points out, Hessel et al. does not disclose any cancellation of interference.

The Examiner depends on Lansford et al. for disclosing that interference would be expected between Bluetooth and IEEE 802.11b standards. Lansford points out that where different radio technologies are built into the same platform, the collocation may create potential for interference between the two technologies (page 20).

The Examiner depends on Dankberg et al. for disclosing overcoming self interference in an RF system. FIG. 5 is suggested by the Examiner to show and teach Applicant's claimed invention. Applicant concedes that Dankberg et al. include a DAC in the transmitter path and an ADC in the receiver path. But, the amended claim language of Applicant's base claim 6 includes a cancellation circuit having a first input directly connected to an input of the DAC. Applicant's base claim 12 includes a cancellation circuit having inputs directly connected to the DAC and the ADC. Applicant's base claim 18 includes processing the first digital value from an input of the DAC and the second digital value from an output of the ADC to generate an out-of-phase signal that is combined with the signal received by the receiver to mitigate the interference in the signal converted by the receiver. Since Dankberg et al. does not explicitly show the DAC and ADC, the provided details are insufficient and do not show or teach the mentioned features of Applicant's base claims. Applicant respectfully submits that the combination of Hessel et al., Lansford et al. and Dankberg et al. cannot make Applicant's claimed invention obvious because the teachings of the relied prior art references, either taken singularly or in combination, do not teach the connections of the DAC and ADC to the cancellation circuit.

Response to the 35 U.S.C. §103(a) Rejection

The Office Action rejects claims 10, 11, 17 and 21 under 35 U.S.C. §103 (a) as unpatentable over Hessel et al. (U.S. 6,359,897 B1) in view of Lansford et al. and Dankberg et al. and further in view of Kensworthy.

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Claims 10, 11, 17 and 21

The Examiner further relies upon Kensworthy for antenna placement to achieve a first antenna placed orthogonal to the second antenna. Without commenting on the teachings of Kensworthy, Applicant points out that none of the references of Hessel et al., Lansford et al. Dankberg et al. and Kensworthy teach or suggest the explicit connections of the DAC and ADC to the cancellation circuit as claimed in Applicant's base claims. Claims 10 and 11 depend, either directly or indirectly, from base claim 6 and are believed to be allowable over the art of reference for at least the same reasons as base claim 6. Claim 17 depends indirectly from base claim 12 and is believed to be allowable over the art of reference for at least the same reasons as base claim 12. Likewise, claim 21 depends indirectly from base claim 18 and is believed to be allowable over the art of reference for at least the same reasons as base claim 18.

Conclusion

The foregoing is submitted as a full and complete response to the Office Action mailed December 12, 2003, and it is submitted that claims 6-21 are in condition for allowance. Reconsideration of the present rejection to claims 1-21 is requested. Allowance of these claims is earnestly solicited.

Applicant herewith petitions the Director of the United States Patent and Trademark Office to extend the time for response to the Office Action dated December 12, 2003, for 4 months. Please charge Deposit Account #50-0221 the amount of \$1,480.00 for a four month extension. Should it be determined that an additional fee is due under 37 CFR §1.16 or 1.17, or any excess fee has been received, please charge that fee or credit the amount of overcharge to deposit account #50-0221.

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If the Examiner believes that there are any informalities that can be corrected by an Examiner's amendment, a telephone call to the undersigned at (480) 715-5388 is respectfully solicited.

Respectfully submitted,



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